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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/066,529	01/31/2002	Ronald A. Askeland	100201207-1	3681

7590 01/22/2004  
HEWLETT-PACKARD COMPANY  
Intellectual Property Administration  
P.O. Box 272400  
Fort Collins, CO 80527-2400

EXAMINER

NGUYEN, LAM S

ART UNIT	PAPER NUMBER
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2853

DATE MAILED: 01/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/066,529

Applicant(s)

ASKELAND ET AL.

Examiner

LAM S NGUYEN

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AW

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 10 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Prakash et al. (US 6302507).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention “by another,” or by an appropriate showing under 37 CFR 1.131.

Prakash et al. disclose a temperature control system for an inkjet printhead assembly, comprising:

**Referring to claims 1, 2, 12:**

a printhead assembly having ink ejection elements energizable by an electrical pulse having an amplitude and pulse width (column 14, line 36-38);

a sensor coupled to the printhead assembly for generating a signal representative

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of the printhead temperature (column 14, line 39-40);

a memory device for storing an optimal operating temperature of the printhead derived from current printhead operating parameters, a thermal response model of the printhead assembly and an ejection history of the ejection elements (FIG. 6, step 602: a corresponding printer memory stores a nominal substrate operating temperature; in step 606: a corresponding thermal response model in which the pulse width is adjusted based on the temperature and the ejection history is the pulse width calibration data and the measured temperature (because temperature is a function of ejection history));

a controller configured to read a nominal operating pulse width, the signal from the sensor, the optimal operating temperature from the memory device and the printhead operating parameters (FIG. 6, step 602) for calculating an adjusted pulse width using the nominal operating pulse width, the signal from the sensor and the current printhead operating parameters (FIG. 6, steps 606, 608); and

a firing controller with an ejection sequence sub-controller for selectively controlling the sequence of fire pulses, a firing delay sub-controller for reducing electromagnetic interference in the printhead assembly (FIG. 1B, element 152) and a fractional delay sub-controller for compensating for scan axis directionality errors of the printhead assembly (FIG. 1B, element 154).

**Referring to claim 12:**

determining a pulse width adjustment factor based on the pulse width calibration data, the optimal operating temperature and measured temperature of the printhead (FIG. 6, step 606);

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calculating an adjusted operating pulse width based on the pulse width adjustment factor and the nominal operating pulse width (FIG. 6, step 608);

applying the adjusted operating pulse width to the printhead to control printhead temperature (FIG. 6, steps 610, 604, 606, 608).

**Referring to claims 3, 13, 14:** wherein the controller is located on at least one of the printhead or externally on a printer (claim 2).

**Referring to claims 4, 15:** wherein the controller reads the nominal operating pulse width and the pulse width calibration data from a memory located on the printhead assembly (claim 4).

**Referring to claims 5, 16:** wherein the controller reads the nominal operating pulse width and the pulse width calibration data from a memory located on the printer (claim 5).

**Referring to claims 6, 17:** wherein the temperature sensor is analog temperature sensor (claim 6).

**Referring to claims 7, 18:** further including an analog to digital converter for generating a digital format of the measured analog signal (claim 7).

**Referring to claims 8, 19:** wherein the temperature sensor is a digital temperature sensor (claim 8).

**Referring to claims 9, 20:** wherein the temperature sensor includes multiple temperature sensors distributed around the printhead so as to provide global measurement of the printhead temperature (claim 9).

**Referring to claims 10, 21:** wherein the pulse width calibration data is in the form of an equation (claim 10).

**Referring to claims 11, 22:** wherein the pulse width calibration data is in a look-up table (claim 11).

***Response to Arguments***

Applicant's arguments with respect to the amended claims 1, 2, 12, have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAM S NGUYEN whose telephone number is (703)305-3342. The examiner can normally be reached on 7:00AM - 3:30PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, STEPHEN D MEIER can be reached on (703)308-4896. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

LN

January 19, 2004



HAI PHAM  
PRIMARY EXAMINER